

CLAIMS

1. Security facility for use as security in substrates, such as security and value documents, security, value and banknote paper and the like, said security facility comprising a non-conducting plastic support, on which at least two conducting  
5 areas spaced apart are provided, characterized in that the at least two conducting areas spaced apart (6) are electrically interconnected by means of at least one diode connection with a predefined conducting direction.
2. Security facility according to claim 1, characterized in  
10 that a number of conducting areas (6) are present on the non-conducting plastic support (5), which are interconnected in series by means of at least one diode connection with a predefined conducting direction.
3. Security facility according to claim 1 or 2, characterized  
15 in that a diode connection comprises a number of rectified, identical diodes (7).
4. Security facility according to claim 1 or 2, characterized in that a diode connection comprises an odd number of counter-rectified, identical diodes (7).
- 20 5. Security facility according to one of the preceding claims, characterized in that one or more diodes (7) of a diode connection is/are made from organic semiconductor polymers or inorganic semiconductor materials.
6. Security facility according to one of the preceding claims,  
25 characterized in that the non-conducting medium (5) is a plastic thread.
7. Security facility according to one of the preceding claims, characterized in that the security facility is selected from, a security thread (3) or an optically variable device (4), a foil  
30 provided with specific optical diffraction and/or reflection such as a foil stripe.
8. Security facility according to one of the preceding claims, characterized in that the conducting areas (6) comprise metal,

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these metal areas consisting of signs entirely surrounded by metal, said signs themselves being metal-free.

9. Security facility according to one of the preceding claims, characterized in that the metal of the metal areas (6) takes the form of signs.

10. Security facility according to claim 8 or 9, characterized in that the signs form a repetitive pattern.

11. Security facility according to one of the preceding claims 1-7, characterized in that the conducting areas (6) are made from organic conducting polymers.

12. Security facility according to claim 11, characterized in that the conducting areas (6) comprising organic conducting polymers are printed with small characters from a printing medium.

13. Security facility according to one of the preceding claims, characterized in that the conducting areas (6) are constructed from organic polymers and metal.

14. Banknote paper, comprising a security facility (4) according to one of claims 1-13.

15. Value document, comprising a security facility (4) according to one of the preceding claims 1-13.

16. Authenticity evaluation method of substrates having a security facility, said security facility comprising a non-conducting plastic support, on which at least two conducting areas spaced apart (6) are provided, wherein the at least two conducting areas spaced apart (6) of the security facility are electrically interconnected by means of at least one diode connection with a predefined conduction direction, said method at least comprising the step of detecting the conducting direction of the security facility, and comparing the detected conducting direction with a reference conducting direction.

17. Authenticity evaluation method according to claim 16, comprising the further steps of measuring the size of a section of the security facility, which section has a conduction in one

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direction, and comparing the size thus measured with a reference size.

18. Authenticity evaluation method according to claim 16 or 17, wherein the substrate has a security facility according to one of the preceding claims 1-13.

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